

REMARKS

Careful consideration has been given by the applicant to the Examiner's comments and rejection of the application as set forth in the outstanding Office Action, and favorable reconsideration and allowance of the application, as amended, is earnestly solicited.

Concerning the Examiner's request for the submission of a new Power of Attorney and Declaration, this is currently being executed and will be submitted by the applicant in due course in conformance with the requirement set forth in the Office Action.

Pertaining to the objections to the specification, applicant has cancelled the Abstract of the Disclosure and herewith presents a new Abstract in conformance with the requirements pursuant to M.P.E.P. 608.01(b).

Concerning the rejection of the claims under either 35 U.S.C. 112, and also the rejection of the claims as being unpatentable over applicants' earlier commonly assigned U.S. Wagenseil U.S. Patent No. 5,007,332, upon careful consideration thereof, and also the Manufacturing Engineering article provided by the Examiner, applicant has cancelled the claims on file without prejudice or disclaimer, and herewith presents new Claims 16-29 which are deemed to clearly and unambiguously provide terminology in conformance with the requirements pursuant to 35 U.S.C. 112, while patentably distinguishing over the Wagenseil patent publication.

In particular, applicant notes that the novel method and construction of forming the joint between the slipper and a piston for a piston machine is not at all disclosed in the prior art.

In particular, the connection between the spherical ball and the hemispherical recess is provided subsequent to finishing the piston and slipper components in order to prevent any contamination or dirtying of the spherical joint which would adversely affect the service life thereof.

In particular, subsequent to finishing the components, in essence, the piston surfaces and hardening of the metal, such as through nitriding or the like, and any other machining operations, the connecting joint or recess edge is hot-beaded subsequent to the insertion of the spherical ball therein so as to enable the converging deformation thereof due to the softening or changing of the hardness properties of the material of the joint recess. This, in effect, allows for the final step in providing the ball containment the processing subsequent to all other manufacturing steps having been completed, thereby simplifying the assembly process, while eliminating any potential contamination caused by any follow-up machining of the various parts, which has been obviated through the invention.

The foregoing simplified method is effected due to the novel and advantageous hot-beading, which is not at all suggested nor disclosed in the prior art.

Reverting to Wagenseil, this relates to a cold-forming process of providing the ball-and-socket joint connection, and consequently is not at all directed to a method or a structure analogous to that provided for by the inventive method.

The foregoing inventive aspects have now been clearly emphasized in the claims, wherein it is indicated that the product is produced by the hot beading of the joint recess portion subsequent to the insertion of the joint ball, and then implementing the converging deformation of at least the free edge portion of the joint recess so as to permanently engage and retain the joint ball therein.

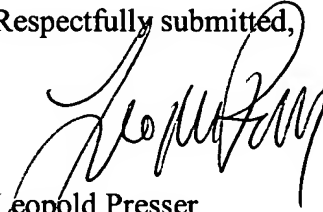
The foregoing hot-beading enables a completion of the interconnection of the joint all within the recess edge, in comparison with cold-forming as in the prior art. In Wagenseil U.S. Patent No. 5,007,332, the recess edge which projects over a filler piece and spring indicates that is cold-rolled or flanged into position which engages behind a spring and also fails to provide

any disclosure as to the manner in which the slipper 18 is positively connected with the piston head 16.

Consequently, both as to the method of manufacture and the product the present invention clearly patentably distinguishes over the prior art as cited by the Examiner.

Accordingly, inasmuch as the applicant has presented new claims which are deemed to meet the formal requirements set forth in the Office Action, while concurrently patentably distinguishing over the art, the early and favorable reconsideration and allowance of the application by the Examiner is earnestly solicited. However, in the event that the Examiner has any queries concerning the instantly submitted amendment, applicants' attorney respectfully requests that he be accorded the courtesy of possibly a telephone conference to discuss any matters in need of attention. Furthermore, the present amendment does not require any "Version with Markings Showing Changes Made".

Respectfully submitted,



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